

ABSTRACT

The invention relates to transgenic non-human animals, embryos and isolated cells therefrom that are heterozygous or homozygous for a mutation in the extracellular signal regulated kinase, Erk5, gene. Such animals, embryos and cells express Erk5 at a reduced level or not at all. Analysis of the homozygous embryos demonstrates a lack of vasculature, indicating that Erk-5 plays a role in angiogenesis. Thus, the present invention also relates to methods for temporarily decreasing or eliminating angiogenesis in a mammal by administering an agent which inhibits Erk-5 expression or Erk-5 activity. And the present invention also relates to methods for increasing angiogenesis in a mammal by administering a functional Erk5 gene.